BRUHAT BENGALURU MAHANAGARA PALIKE

MEASUREMENT SHEET

RA 1ST AND FINAL BILL

Name of work: Improvements and Asphalting to Roads at Thindlu, Veerabadraswamy Temple and Surrounding areas in Ward No. 09 (Vidyaranyapura).

Estimated Cost: Rs. 30.00 Lakhs

Job Code: 009-20-000084

Head of Account : P-1771 POW Works

Name of Agency: Sri B. Chandrashekar, No. 28, Anjaneyaswamy Layout, 1st Main Road, Thindlu, Vidyaranyapura (Post), Bangalore - 560 097.

Work order No: BBMP/EE/BTP/WO/27/2020-21 Dated: 23-06-2021.

	Measurements Recarded on :									
Sl No.	**Description**	**No.**	**L**	**B1**	**B2**	**Av.B**	**D**	**Qty**	**Rate**	**Amount**
1	Earthwork excavation by manual means in ordinary soil involving an average horizontal throw upto 2 meters and an average lift upto 0.5 m, excavated surface leveled and sides neatly dressed, the disposed earth to be leveled neatly after breaking of clods complete as per specifications.								Cum	
	Qty as per Premeasurement vide E-MB Page No. 01 to 02 is =							**342.81**	223.15	**76498.00**
2	Providing and laying **Plain cement concrete of mix 1:3:6 with with OPC cement @ 220kgs, with crushed 40mm and down size** graded granite metal coarse aggregates @0.84cum and fine aggregates @ 0.56cum, in foundation mechanically mixed, placed in foundation and compacted by vibration including curing for 14 days complete as per specifications								Cum	
	Qty as per Premeasurement vide E-MB Page No. 03 is =							**88.00**	4961.04	**436572.00**
3	Providing and constructing granite / trap / basalt size stone masonry in **basement with cement mortar 1:6, edges of stones** chistle dressed in courses not less than 15 cms high, bond stones at two m. apart in each course including cost of materials, labour, curing complete as per specifications.								Sqm	
	Qty as per Premeasurement vide E-MB Page No. 04 is =							**24.12**	5317.96	**128269.00**
4	Providing **ruled pointing 20 mm deep** to coursed stone masonry with cement mortar 1:3, 20mm deep, after raking joints to depth of 20mm nicely lining, including cost of materials, labour, curing complete as per specifications								Sqm	
	Qty as per Premeasurement vide E-MB Page No. 05 is =							**17.96**	137.73	**2474.00**
5	Providing and constructing load bearing wall with solid concrete blocks of size 400x150x200 mm having block density not lessthan 1800 kg/m3 and having a minimum average compressive strength 4.00 N/mm2 confirming to IS 2185 (Part) : 2005 and constructed with CM 1:4 , as per IS 2572:2005 including cost of all materials, labour charegs, scaffolding, curing complete as per specifications.								Sqm	
	Qty as per Premeasurement vide E-MB Page No. 06 is =							**48.38**	896.19	**43358.00**
6	Providing 18mm thick cement plaster in single coat with cement mortar 1:6, to brick masonry including rounding off corners wherever required smooth rendering, : Providing and removing scaffolding, including cost of materials, labour, curing complete as per specifications.								Sqm	

Sl No	Description	No.	L	B1	B2	Av.B	D	Qty	Rate	Amount
	Qty as per Premeasurement vide E-MB Page No. 07 is =							**100.94**	237.63	**23986.00**
7	Providing and finishing external walls in two coats with waterproof cement paint of approved brand and shade to give an even shade after throughly brooming the surface to remove all dirt and loose powdered material, free from mortar drops and other foreign matter cost of materials, labour, complete as per specifications. - with primer.								Sqm	
	Compound Wall	2	15.00				1.45	43.50		
		2	11.20				1.45	32.48		
		2	7.80				1.60	24.96		
			Total Qty =					**100.94**	98.93	**9986.00**

Assistant Engineer
New Ward No. 11

Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

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Kodigehalli Sub Division

Sl N	Description	No.	L	B1	B2	Av.B	D	Qty	Rate	Amount
	Measurements Recarded on :									
8	Providing and laying in position plain cement concrete of mix 1:2:4 with cement @ 240kgs, with 20mm and down size graded granite metal coarse aggregates @ 0.69 cum and fine aggregtes @ 0.459cum, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, for coping. Including cost of all materials, labour, HOM of machinery, curing complete as per specifications.								Cum	
	Qty as per Premeasurement vide E-MB Page No. 08 is =							**1.53**	5123.98	**7840.00**
9	Providing laying palin / reinforced cement concrete for side drains using M 20 nominal mix concrete with OPC at 300 kgs with 20 mm and down size granite metal course aggregates at 0.69 cum and fine aggregates at 0.43 cum machine mixed well compacted for walls and bottom including cenmtering shuttering form work etc. complete as per approved drawing and design MORTH Specification No. 1500,1700,2200 Wall & Bottom thickness 15cm								Cum	
	Qty as per Premeasurement vide E-MB Page No. 09 is =							**67.91**	6469.23	**439325.00**
10	Providing **T.M.T steel reinforcement for R.C.C work** including straightening, cutting, bending, hooking, placing in position, lapping and / or welding wherever required, tying with binding wire and anchoring to the adjoining members wherever necessary complete as per design (laps, hooks and wastage shall not be measured and paid) cost of materials, labour, HOM of machinery complete as per specifications. **TMT bars Fe 500**								Tonne	
	Qty as per Premeasurement vide E-MB Page No. 10 is =							**4.07**	66179.19	**269349.00**
11	Providing **precast slab of 100mm thick** including cost of all materials, labour, curing, transportation, loading unloading, etc.,complete as per the direction of engineer in charge - (Data rate Approved).								Sqm	
	Missing Covering									
	For C C Drain from Temple Compound									
		1	15.00				0.90	13.50		
		1	15.00				0.90	13.50		
		1	5.00				0.90	4.50		
		1	9.50				0.90	8.55		
	Temple E/S From Unique Florence									
		1	15.00				0.90	13.50		
		1	10.50				0.90	9.45		
		1	13.50				0.90	12.15		
		1	15.00				0.90	13.50		
		1	15.00				0.90	13.50		
		1	15.00				0.90	13.50		
		1	14.00				0.90	12.60		
		1	15.00				0.90	13.50		
		1	12.50				0.90	11.25		
			Total Qty =					**153.00**		
			Qty Limite to Approved Qty =					**152.64**	2138.36	**326399.00**

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Sl No	Description	No.	L	B1	B2	Av.B	D	Qty	Rate	Amount
	Measurements Recarded on :									
12	Construction of un-reinforced plain cement concrete pavement, using grade concrete M30 over a prepared base with OPC course aggregate at 0.69 cum fine aggregates at 0.46 cum course and fine aggregtes confirming to IS : 383-2016, with superplastisiser @3lts confirming to IS9103-1999 mixed in a concrete mixer of not less than 0.6 cum capacity and appropriate weigh batcher as per approved mix design, laid in approved fixed side form work (steel channel, laying and fixing of 125 micron thick polythene film, wedges, steel plates including levelling the form work as per drawing). & Spreading the concrete with shovels, rackers compacted using needle, screed and plate vibrator and finished with floaters in a continuous operation including provision of contraction, expansion, construction and longitudinal joints including groove cutting charges, joint filler, separation membrane of impermiable plastic sheet of 125 micron selant primer, joint sealant, admixtures as approved, curing compound, finishing to lines and grades as per drawing complete as per specifications - **(with OPC at 360Kg per cum & coarse aggregate @ 0.69cum and fine aggregate @ 0.46cum)**								Cum	
	CC Road infront Veerabadraswamy Temple	1	12.50			13.55	0.15	25.41		
		1	6.50			13.45	0.15	13.11		
		1	2.10			0.85	0.15	0.27		
		1	4.20			2.20	0.15	1.39		
			Total Qty =					**40.17**	4069.70	**163495.00**

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Sl No	Description	No.	L	B1	B2	Av.B	D	Qty	Rate	Amount
	Measurements Recarded on :									
13	Scarifying bituminous course 50mm to 75mm thick along with premix carpet / surface dressing by manual means without disturbing the base and stacking of the debris materials including cost of all labour charges complete as per specifications.								Sqm	
	Qty as per Premeasurement vide E-MB Page No. 11 is =							**150.18**	87.29	**13109.00**
14	Providing, laying, spreading and compacting crushed stone aggregates of granite / trap / basalt to wet mix macadam specifications including pre mixing the material with water at OMC in mechanical mix plant carriage of mixed method of tipper to site, laying in uniform layers with paver in sub-base/base course on well prepared surface and compacting with vibratory roller to achieve the desired density complete as per specifications.								Cum	
	Qty as per Premeasurement vide E-MB Page No. 12 is =							**99.27**	1831.17	**181780.00**
15	Providing and applying primer coat with S.S. bitumen emulsion on prepared surface of granular base such as WMM including cleaning of road surface and spraying primer at the rate of 0.60 kg / sqm using mechanical means complete as per specifications.								Sqm	
	Qty as per Premeasurement vide E-MB Page No. 13 is =							**495.17**	26.19	**12969.00**
16	KSRRB 500-11. Providing and laying **bituminous macadam** on prepared surface with crushed coarse aggregates as per design mix formula for base / binding course including loading of aggregates with F.E. loader, hot mixing of stone aggregates and bitumen in hot mix plant, transporting the mixd material in tipper to paver and laying mixed materials with paver finisher to the required level and grade, rolling by power roller to achieve the desired density, but excluding cost of primer / tack coat including lead, lift and cost of all materials, labour, HOM of machineries complete as per specifications. MORTH /Chapter 5 - using **40/60 TPH capacity H.M.P. with Mechanical paver Gr-II (50 mm to 75 mm) with 3.3 % VG-30 Bitumen**								Cum	
	Qty as per Premeasurement vide E-MB Page No. 14 is =							**7.54**	4907.69	**37004.00**
17	Cleaning the existing black topped surface with brooms, soft brushes and finally dusting with old gunny bags and / or compressed air to receive bituminous treatment including cost of all materials, labour, HOM of machineries complete as per specifications. MORTH specification clause								Sqm	
	Qty as per Premeasurement vide E-MB Page No. 15 is =							**889.20**	4.85	**4313.00**
18	Providing and applying tack coat using 80/100 grade bitumen(VG10) on the prepared black topped surfaces at 2.5 kg per 10 sqm, heating bitumen in boiler fitted with spray set (excluding cleaning of road surface) including cost of all materials, labour, HOM of machineries complete as per specifications.								Sqm	
			Qty Vide Item No. 17					889.20		
								889.20	11.64	**10350.00**
19	Providing and laying **bituminous concrete 40 mm thick** with hot mix plant, using crushed aggregates of specified grading, premixed with bituminous binder and filler, transporting the hot mix to work site, laying with a paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH specification clause No. 500.9 complete in all respects complete as per specifications. MORTH Specification No. 509 - **using 40/60 TPH capacity H.M.P. with Mechanical Paver Gr-II (30 mm to 45 mm) with 6 % VG-30 Bitumen**								Cum	
	Veerabadraswamy Temple Road									
		1	15.00	10.30	6.20	8.25	0.04	4.95		
		1	15.00	6.20	6.20	6.20	0.04	3.72		

Sl N	Description	No.	L	B1	B2	Av.B	D	Qty	Rate	Amount
		1	15.00	6.20	7.30	6.75	0.04	4.05		
		1	15.00	7.30	7.30	7.30	0.04	4.38		
		1	15.00	7.30	7.20	7.25	0.04	4.35		
		1	7.40	7.20	7.00	7.10	0.04	2.10		
	VP Layout connected to Thindlu road									
		1	15.00	5.50	3.70	4.60	0.04	2.76		
		1	15.00	3.70	3.20	3.45	0.04	2.07		
		1	15.00	3.20	3.80	3.50	0.04	2.10		
		1	15.00	3.80	4.40	4.10	0.04	2.46		
		1	13.40	4.40	5.40	4.90	0.04	2.63		
			Total Qty =					**35.57**	6945.45	**247036.00**

247049.00

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Sl N	Description	No.	L	B1	B2	Av.B	D	Qty	Rate	Amount
	Measurements Recarded on :									
20	Road Marking with Hot Applied Thermoplastic Compound with Reflectrising Glass Beads on Bituminous Surface:- Providing and laying of hot applied thermoplastic compound 2.5 mm thick including reflectorising glass beads at 250 gms per sqm area, thickness of 2.5 mm is exclusive of surface applied glass beads as per IRC:35. The finished surface to be level, uniform and free from streaks and holes complete as per specifications.								Cum	
	Veerabadraswamy Temple Road									
		2	15.00			0.10		3.00		
		2	15.00			0.10		3.00		
		2	15.00			0.10		3.00		
		2	15.00			0.10		3.00		
		2	15.00			0.10		3.00		
		2	8.60			0.10		1.72		
	VP Layout connected to Thindlu road									
		2	15.00			0.10		3.00		
		2	15.00			0.10		3.00		
		2	15.00			0.10		3.00		
		2	15.00			0.10		3.00		
		2	13.40			0.10		2.68		
			Total Qty =					**31.40**	416.09	**13065.00**
	Sub Total									**2447177.00**
	Add GST @ 12%									**293661.00**
	Grand Total									**2740838.00**

Round off 2740000.00

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